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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/634,820      | 08/06/2003  | Akira Kawabata       | 01-456              | 6743             |

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POSZ & BETHARDS, PLC  
11250 ROGER BACON DRIVE  
SUITE 10  
RESTON, VA 20190

EXAMINER

GILMAN, ALEXANDER

ART UNIT PAPER NUMBER

2833

DATE MAILED: 05/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/634,820

Applicant(s)

KAWABATA ET AL.

Examiner

Alexander D Gilman,

Art Unit

2833

P22W

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 August 2003.  
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) 8-10 is/are allowed.  
6) ☒ Claim(s) 1-8 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 03/02/2004  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by the admitted prior art.

With regard to claim 1, the admitted prior art (Fig. 5 of the current specification) discloses an electronic control unit comprising

a case (100),

a circuit board (102),

an onboard type electronic component (101) disposed on the circuit board in the case,

a non-onboard type electronic component (104) disposed outside the circuit board in the case,

and a pin of a connector (105) electrically connected to the circuit board disposed in the case, wherein the circuit board is electrically connected to the non-onboard type electronic component,

the case is a thermally conductive metallic case that has a concavity (the space between bottom (100) and cover metal plates) for installing the non-onboard type electronic component,

a resinous frame (103) that houses the non-onboard type electronic component is disposed inside the concavity, and

a metallic electrical conductor (106) inserted into the resinous frame is electrically connected to the circuit board via a metallic foil (107).

With regard to claim 2, the admitted prior art discloses that the thermally conductive metallic case, the resinous frame, and the connector are structured separately.

With regard to claim 3, the admitted prior art discloses that wherein a plurality of the non-onboard type electronic components are disposed in the case, and all of the non-

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onboard type electronic components are housed inside the resinous frame.

With regard to claim 4, the admitted prior art discloses (p. 1. lines 16-17) that conductive metallic case is an aluminum

With regard to claim 5, the admitted prior art discloses (Fig. 6), a mounting brim (115).

With regard to claim 6, the admitted prior art discloses (Fig. 5) a thermally radiative window in the resinous frame (since thermal radiation is not prevented from 104 to the top metal plate).

With regard to claim 7, the admitted prior art discloses (Fig. 5) that the electronic control unit is directly mounted to an engine (200).

***Allowable Subject Matter***

Claims 8-10 are allowed.

No prior art has been found to anticipate or render obvious the presently claimed subject matter. Specifically, none of the prior art of record discloses the combination of the limitations presented including the case made of thermally conductive metal having the first portion of the bottom surface and a second portion of the bottom surface, and a concavity disposed in the second portion of the bottom surface; wherein the circuit board disposed in the first portion of the bottom surface; an onboard type electronic component disposed on the circuit board; a resinous frame disposed in the concavity; and a non-onboard type electronic component housed in the resinous frame.(claim 8).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander D Gilman whose telephone number is 571 272-2004. The examiner can normally be reached on Monday-Friday, 10:30 a.m. - 8:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula A. Bradley can be reached on 571 272-2800 ext. 33. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

05/13/2004

A handwritten signature in black ink that reads "Alex Gilman". The signature is written in a cursive, flowing style.

**ALEXANDER GILMAN  
PRIMARY EXAMINER**